# CITY OF ODESSA, TEXAS LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN FOR 2020 IMPACT FEE STUDY



December 2020

# Prepared for the City of Odessa

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# City of Odessa 2020 LUA and CIP for Impact Fee Study

AS PREPARED FOR THE CITY OF ODESSA, TEXAS

# 1.1 PURPOSE

Chapter 395 of the Texas Local Government Code describes the procedure Texas political subdivisions must follow in order to assess impact fees for new development. The first step required in updating impact fees is the development of Land Use Assumptions. These Land Use Assumptions, which include both residential and employment estimates, form the basis for the development of impact fee Capital Improvement Plans (CIP) for roadway, water, and wastewater facilities.

Reasonable future growth estimates are necessary in order to aid the City of Odessa in establishing the need for capital improvements required to serve future development. In accordance with Chapter 395, Kimley-Horn has compiled the information required to complete the Land Use Assumptions using the following sources:

- City of Odessa 2019 Water Master Plan;
- City of Odessa 2019 Wastewater Master Plan
- City of Odessa 2018 Master Thoroughfare Plan;
- Ector and Midland County 2018 Parcel Data;
- Growth Trends by City-Approved Designated Areas;
- City of Odessa Estimated 2020 Population
- 2014-2018 Census
- City of Odessa Water Meter Data
- City of Odessa Staff





# 1.2 COMPONENTS OF THE LAND USE ASSUMPTIONS CHAPTER

The Land Use Assumptions chapter includes the following components:

# LAND USE ASSUMPTIONS METHODOLOGY

An overview of the general methodology used to generate the land use assumptions.

# **10-YEAR GROWTH ASSUMPTIONS**

Walk through of the growth projections for 2020-2030.

# **IMPACT FEE SERVICE AREAS**

Explanation of the divisions of Odessa into service areas for roadway, water, and wastewater facilities.

# LAND USE ASSUMPTIONS SUMMARY

A synopsis of the land use assumptions.





# 1.3 LAND USE ASSUMPTIONS METHODOLOGY

The residential and non-residential growth projections formulated in this report were performed using reasonable and generally accepted planning principles. The following was the process used to develop the land use assumptions:

# Step 1: Assign Land Use Codes

The first step was assigning land use codes to the updated Ector & Midland county parcel files. Based on the Existing Land Use from the 2019 Master Plan, the PIN\_ID from the parcel files was used to match with existing land use and assign land use codes. By utilizing an aerial survey, we were able to confirm the land use assignments. **Exhibit 1.1** summarizes existing land use within the 5-Mile ETJ. **Exhibit 1.2** summarizes the future land use within the water service area boundary. The water service area is the largest of the roadway, water and wastewater service areas therefore, it was utilized for land use planning.

# Step 2: Analyze Water Meter Data

For the water meter data, we were able to count the number of single family and multi-family meters based off the Rate Class field and sort by size. For the multi-family meter count both "M" for multi-family" and "SD" for senior residential were considered. For the single-family meter count only the "S" Rate Class for single family was considered.

# **Step 3: Determine Population for 2020**

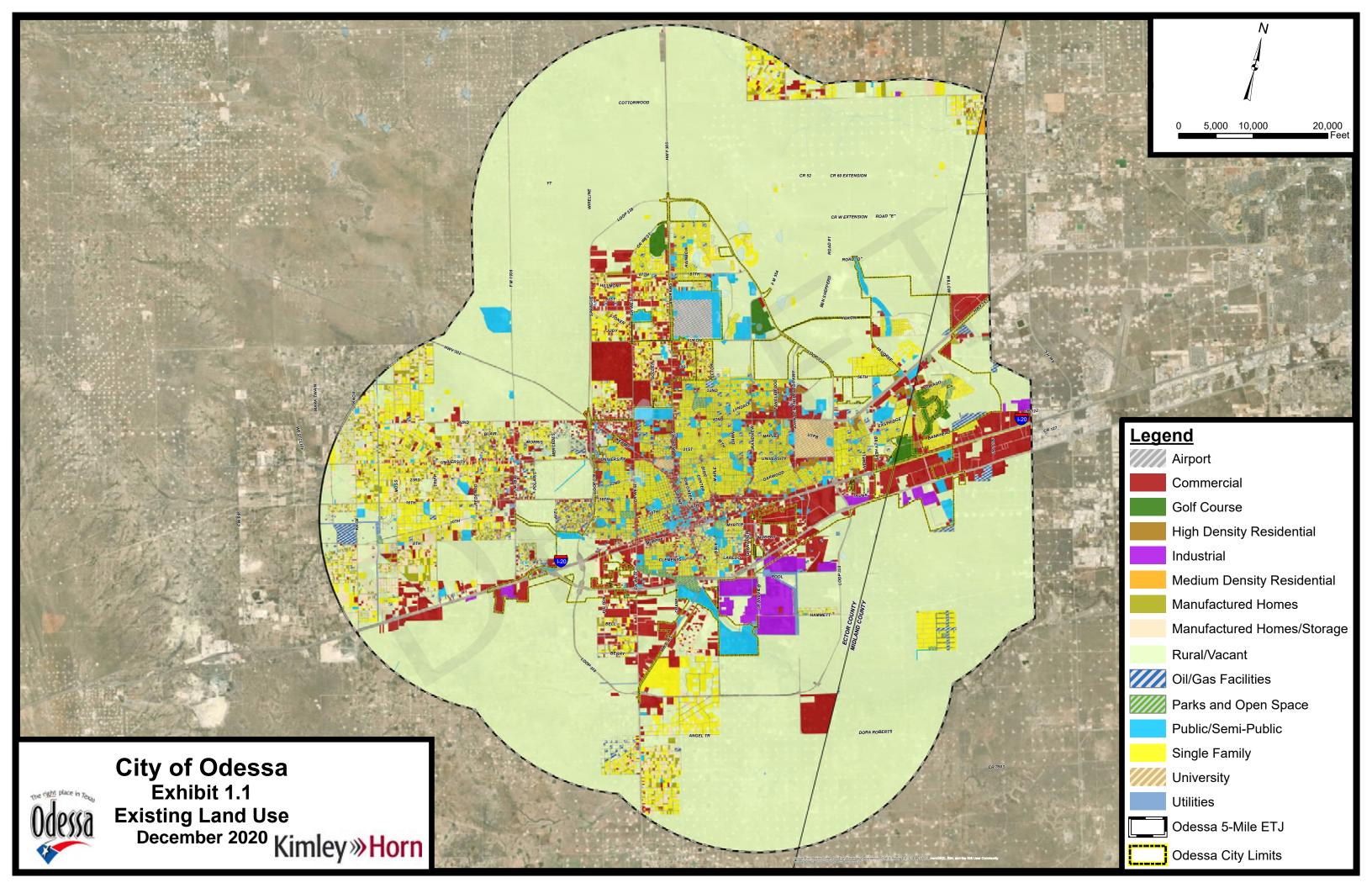
The population estimation for 2020 was analyzed separately between single family and multi-family. The average persons per household (unit) of 2.9 was gathered from the 2014-2018 Census for the City of Odessa. For single family, a single parcel was assumed to have a single unit. Single family population estimation consisted of multiplying the number of single-family parcels by 2.9. For multi-family, meters served multi-family parcels where each parcel had a varying number of units. The average number of units per meter size was calculated. **Table 1.1** summarizes the unit/meter ratio by size for multi-family meters. Multi-family population estimation consisted of multiplying the number of meters by their respective unit/meter ratio then multiplying by 2.9. Using an estimated 2020 population provided by the City of Odessa of 124,500 (Inside City Limits).

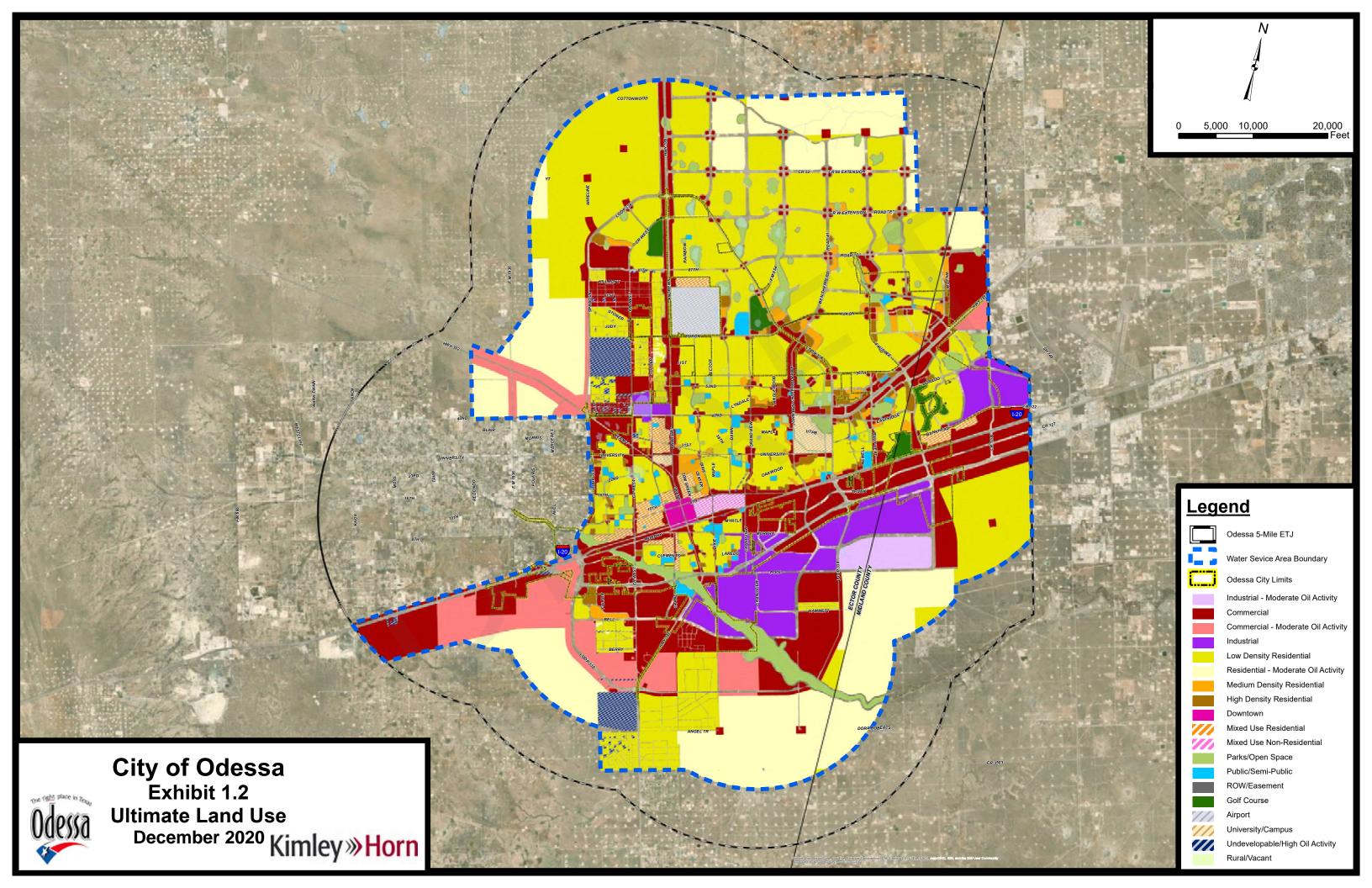




Table 1.1: Meter/Unit Ratio Summary

Meter	Flow (gpm)	Units
3/4 INCH	30	1
1 INCH	50	12
1 1/2 INCH	100	24
2 INCH	160	39
3 INCH	350	84
4 INCH	600	145
6 INCH	1,300	314
8 INCH	2,800	676
10 INCH	4,200	1,014









# 1.4 10-YEAR GROWTH ASSUMPTIONS

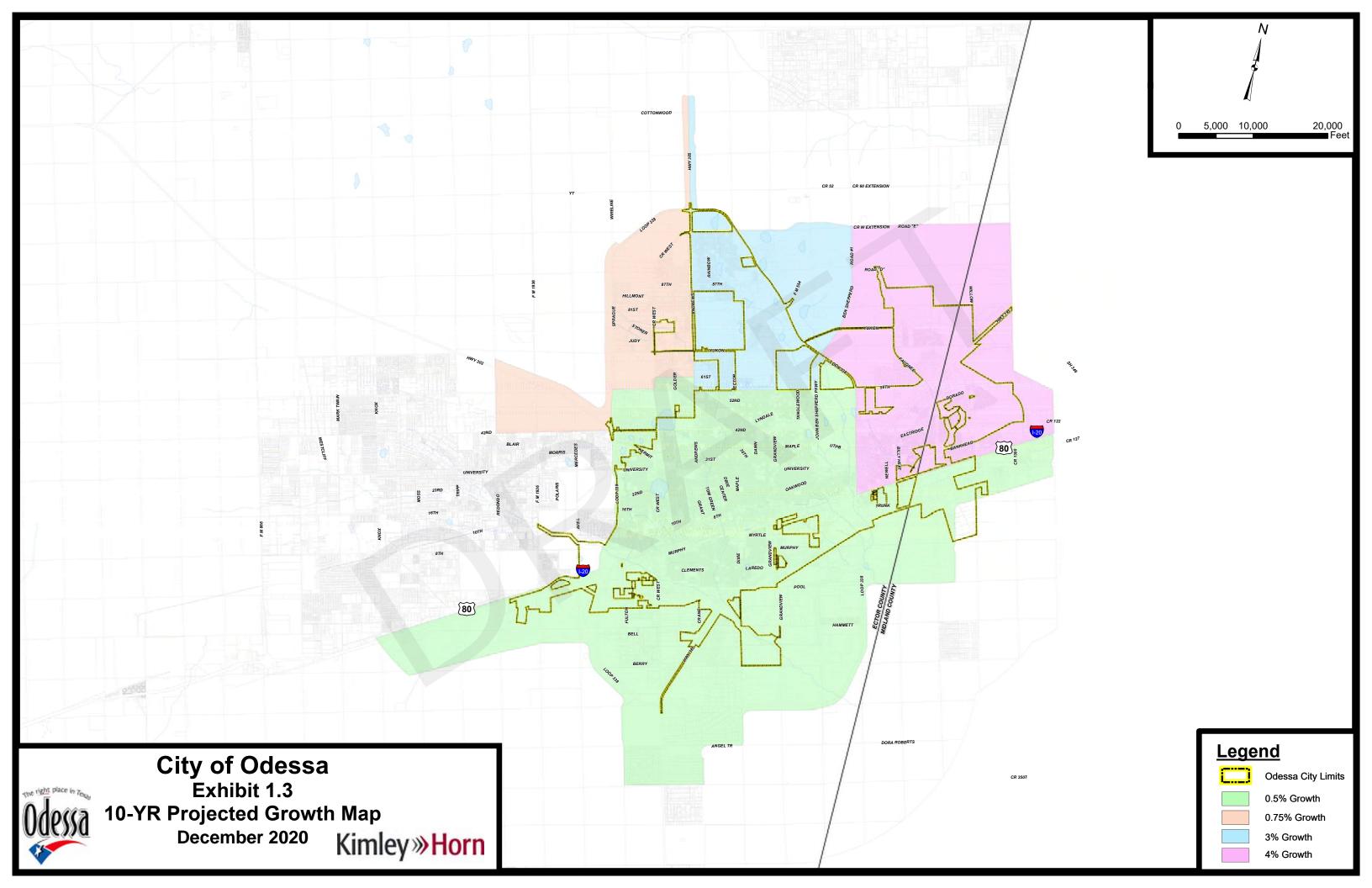
# Step 4: Determine 10-Year Total Population Growth Projections (2020-2030)

For 2030, the population estimation was done by designated growth areas determined with the City of Odessa (see **Exhibit 1.3**). For each growth area the number of single-family parcels and multi-family meters was assumed to increase by the respective growth percentage each year. **Table 1.2** summarizes the population projections and overall growth percentages from 2020-2030.

**Table 1.2: Population Growth Summary** 

Year	<b>City Limits Population</b>	Water Service Area Population	Wastewater Service Area Population	<b>Growth Rate</b>
2020	124,500	135,310	129,235	-
2021	126,035	136,978	130,828	1.23%
2022	127,609	138,689	132,462	1.25%
2023	129,224	140,444	134,138	1.27%
2024	130,881	142,245	135,858	1.28%
2025	132,581	144,093	137,624	1.30%
2026	134,328	145,991	139,436	1.32%
2027	136,120	1 <i>47</i> ,939	141,297	1.33%
2028	137,962	149,941	143,208	1.35%
2029	139,853	151,996	145,172	1.37%
2030	141,797	154,109	147,189	1.39%

The water service population exceeds the City Limits population because the City provides water service to properties outside of the City Limits. The wastewater service population exceeds the City Limits population because the City provides wastewater service to properties outside of the City Limits.







# Step 5: Determine Residential/Non-Residential 10-Year Growth Projections for Traffic Demands

Residential and non-residential growth projections were determined based on the parcel data and growth rates obtained from the City's Transportation Master Plan. Within the data provided, each of the City's individual parcels was assigned a specific growth rate (0%, 0.5%, 0.75%, 3%, or 4%). To calculate the anticipated growth, each growth rate was applied to its respective parcel and grown over ten years, resulting in the 2030 growth projection of service units.

### RESIDENTIAL GROWTH PROJECTIONS

For residential land uses, the existing and projected population is converted to dwelling units (parcels per service area). To determine a population growth estimate, parcels within Odessa's city limits are first divided based on growth rate and service area. Once the existing number of dwelling units has been determined per service area, an estimated population growth was obtained by applying the appropriate growth rate to each population total.

Based on the results, residential properties are anticipated to increase by approximately 5,964 units over the next ten-year growth period.

## **NON-RESIDENTIAL GROWTH PROJECTIONS**

The remaining growth to occur within the 10-year window for non-residential units is derived similarly to the growth of the residential properties. For non-residential properties, building square footage (as opposed to number of units) is the most common independent variable for the estimation of trips in the *Institute* of *Transportation Engineers'* (*ITE*) *Trip Generation Manual*, 10th Edition. Rather than totaling number of units, the non-residential analysis utilized the total building square footage per area per growth rate within the City Limits, and these numbers were grown to the 2030 projected year.

Residential and non-residential growth projections can be found on **Table 1.3**.





Table 1.3: Estimated Residential Growth Table (2020 – 2030)

Service	v	Residential	Non-Re	esidential Squa	re Feet
Area	Year	Units	Basic	Service	Retail
1		2,128	0	663,000	246,000
2	2030	944	509,000	776,000	900,000
3		2,892	3,000	671,000	441,000
Growth Sub-Total (SAs 1-3)		5,964	512,000	2,110,000	1,587,000





# 1.5 IMPACT FEE SERVICE AREAS

### SERVICE AREA DEFINITION

According to Chapter 395 of the Local Government Code, a Service Area refers to the area within the corporate boundaries or extraterritorial jurisdiction of the political subdivision to be served by the capital improvement or facilities specified in the Capital Improvement Plan. Funds collected in the specific service areas must be spent in the service area collected.

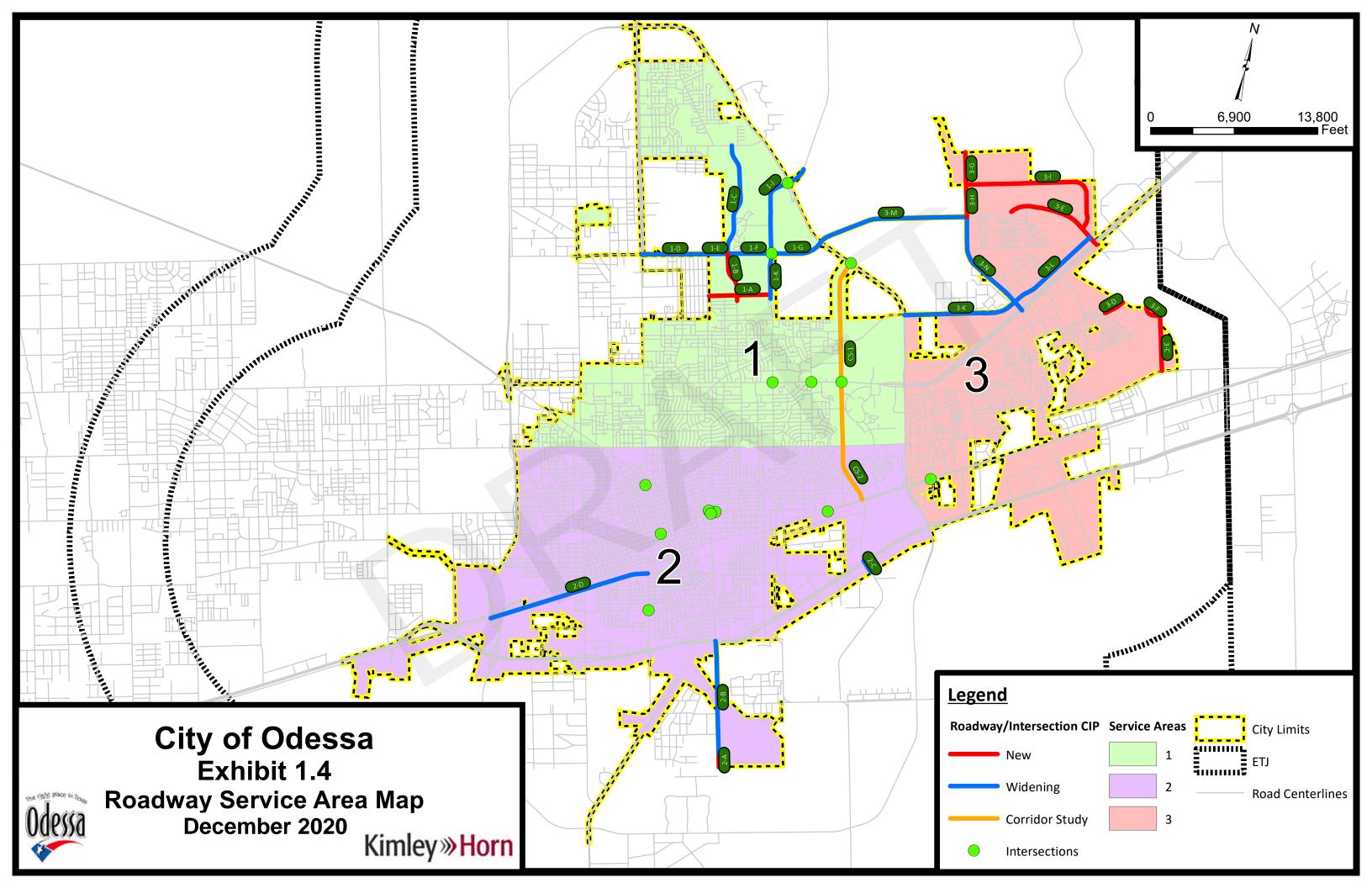
### ROADWAY IMPACT FEE SERVICE AREAS

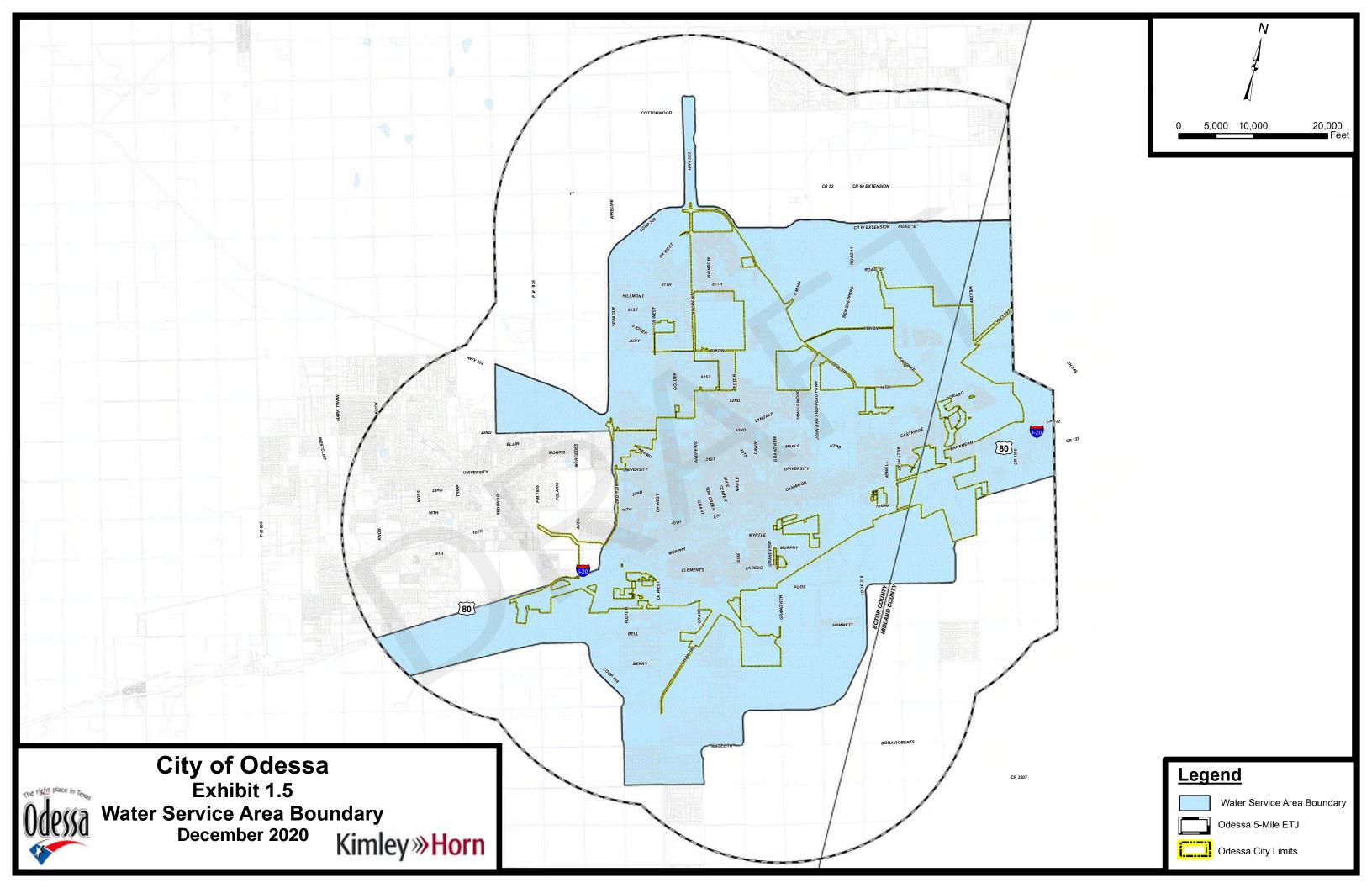
The geographic boundaries of the three (3) impact fee service areas for roadway facilities are shown in **Exhibit 1.4.** The roadway service areas cover the entire corporate boundary of the City of Odessa. Chapter 395 of the Texas Local Government Code specifies that "the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles."

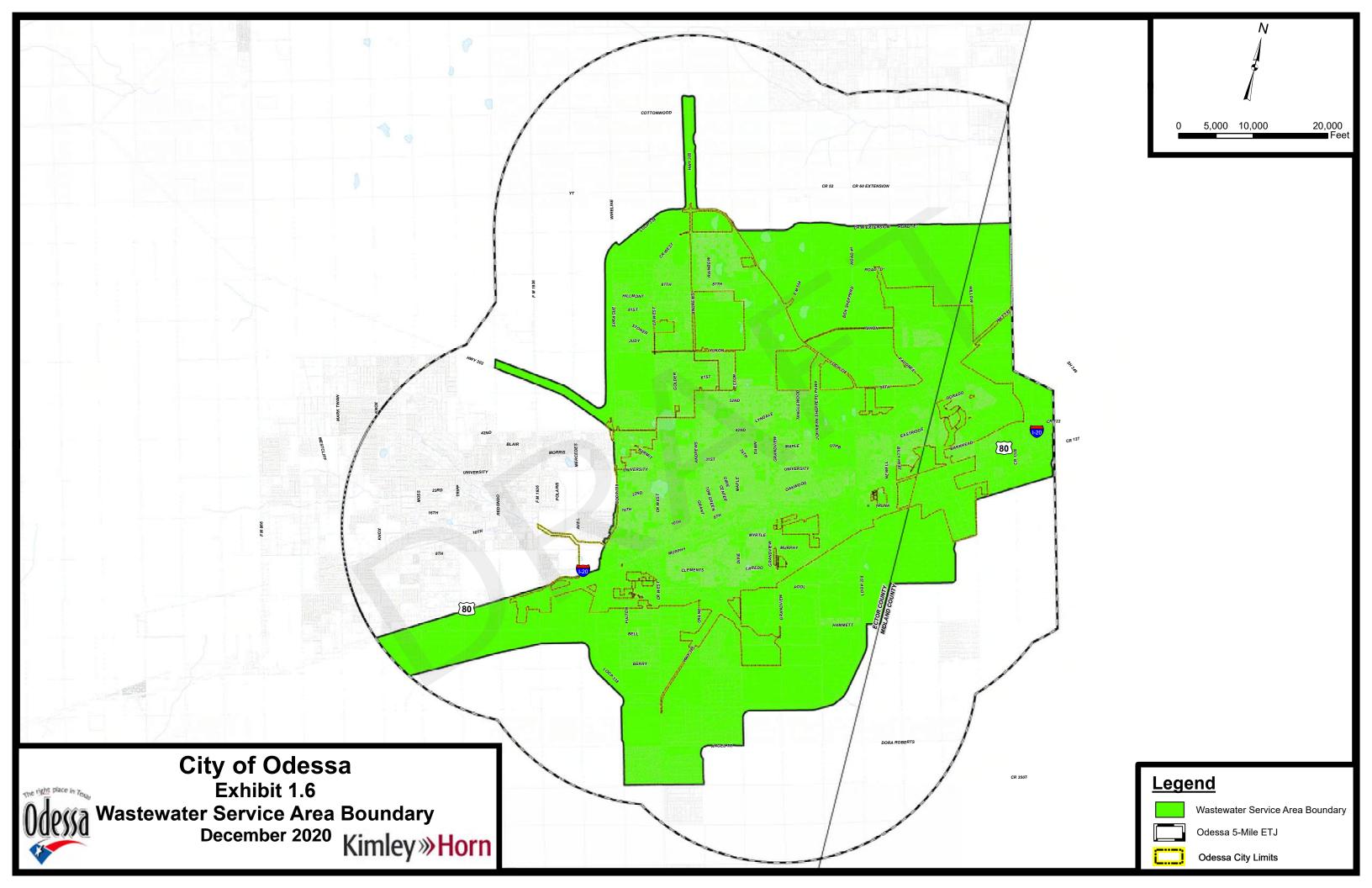
Service Area 1 is located north of University Blvd and west of State Hwy Loop 338. Service Area 2 is located south of University Blvd and west of State Hwy Loop 338. Service Area 3 is located east of State Hwy Loop 338.

# WATER AND WASTEWATER IMPACT FEE SERVICE AREAS

The geographic boundaries of the impact fee service area for water and wastewater facilities are shown in **Exhibit 1.5** and **1.6**, respectively. The water and wastewater impact fee service areas include the area in the City's water and wastewater master plan study boundaries created in the 2019 Water and Wastewater Master Plans.











# 1.6 LAND USE ASSUMPTIONS SUMMARY

The following is a land use assumptions summary for the City Limits of Odessa. This City Limit summary is equivalent to the roadway land use assumptions, which was then adjusted for the water and wastewater land use assumptions, based on anticipated growth in the ETJ. These projections do not consider growth outside of the City Limits of Odessa.

- The ten year (2020 2030) residential growth projection is approximately:
  - City Total = 5,964 Dwelling Units
- The ten-year (2020 2030) employment growth projection is approximately:
  - City Total =  $4,209,000 \text{ ft}^2$





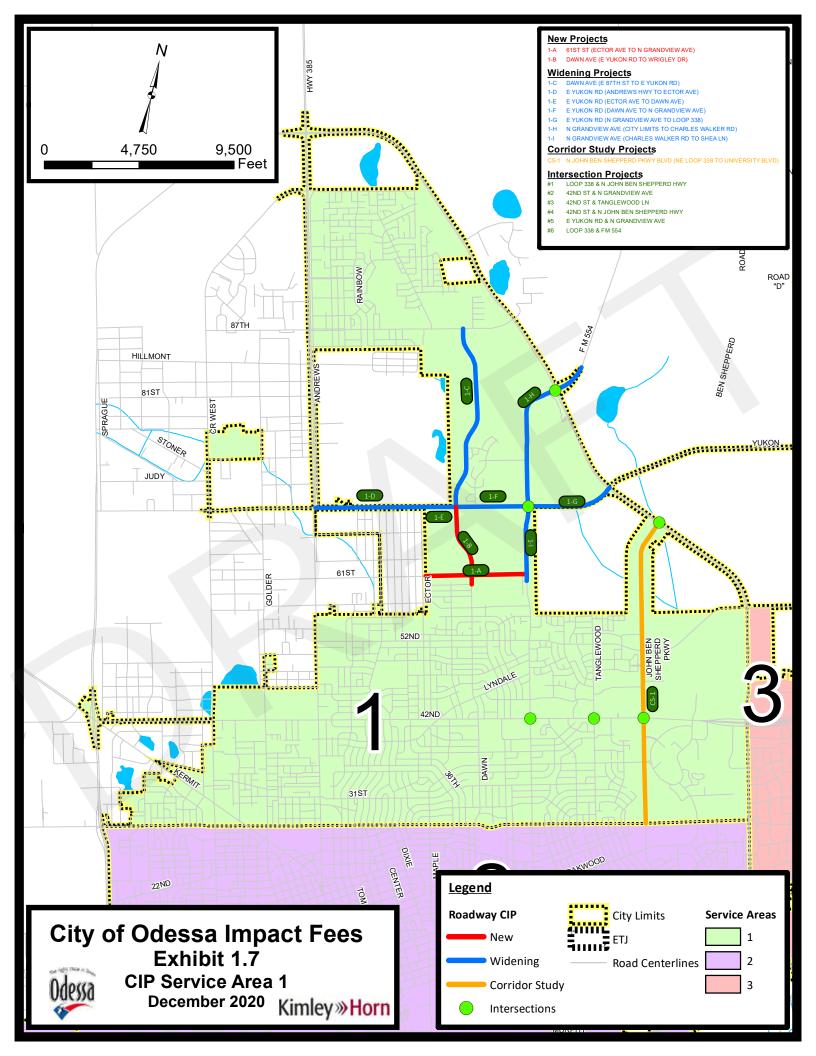
# 1.7 IMPACT FEE CAPITAL IMPROVEMENTS PLAN

# A. Roadway Impact Fee CIP

The proposed Roadway Impact Fee Capital Improvements Plan (*RIF CIP*) is listed in **Tables 1.4 – 1.6** and mapped in **Exhibits 1.7 – 1.9**. The tables show the length of each project as well as the facility's Transportation Master Plan classification. The RIF CIP was developed in conjunction with input from City of Odessa staff and represents projects that will be needed to accommodate the growth projected in the Land Use Assumptions section of this report.

Table 1.4: 10-Year Roadway Impact Fee CIP -Service Area 1

Service Area	Proj. #	Thoroughfare Plan Clavsification	Roadway	Limits	Length (mi)	% In Service Area
	1-A	Minor Arterial	61st St	Ector Ave to N Grandview Ave	0.96	100%
	1-B	Minor Arterial	Dawn Ave (1)	E Yukon Rd to Wrigley Dr	0.77	100%
	1-C	Minor Arterial	Dawn Ave (2)	E 87th St to E Yukon Rd	1.77	100%
	I-D	Major Arterial	E Yeken Rd (1)	Andrews Hwy to Ector Ave	1,04	100%
	1-8	Major Arterial	E Yukou Rd (2)	Ector Ave to Duwn Ave	0.24	50%
	1-F	Major Arterial	E Yukou Rd (3)	Dawn Are to N Grandview Ave	0.75	100%
	149	Major Arterial	E Yeken Rd (4)	N Grandview Ave to Loop 338	0.83	100%
	1-10	Major Arterial	N Grandview Ave (1)	City Limits to Charles Walker Rd	1.16	100%
	1-1	Major Arterial	N Grandview Ave (2)	Charles Walker Rd to Shea Ln	1.16	100%
148	Proj. #		Location	Improvement(s)		% In Service Area
	- 1	1 -	Leop 338 & N John Ben Shepperd Highway	Overpass		50%
	2	latersection Improvements	42nd Street & N Grandview Avenue	Intersection Improvements		100%
	3		42nd Street & Tanglewood Lane	Intersection Improvements		100%
	4		42nd Street & N John Ben Shepperd Highway	Intersection Improvements		100%
	5		E Yukou Rood & N Grandview Avenue	Intersection Improvements		100%
	6		Loop 338 & FM 554	Intersection Improvements		50%
	Proj. #	Corridor Studies	Location	Limits	Length (ml)	% In Service Area
	CS-1		N John Ben Shepperd Parkway Blvd	NE Loop 338 to University Blvd	2.88	100%

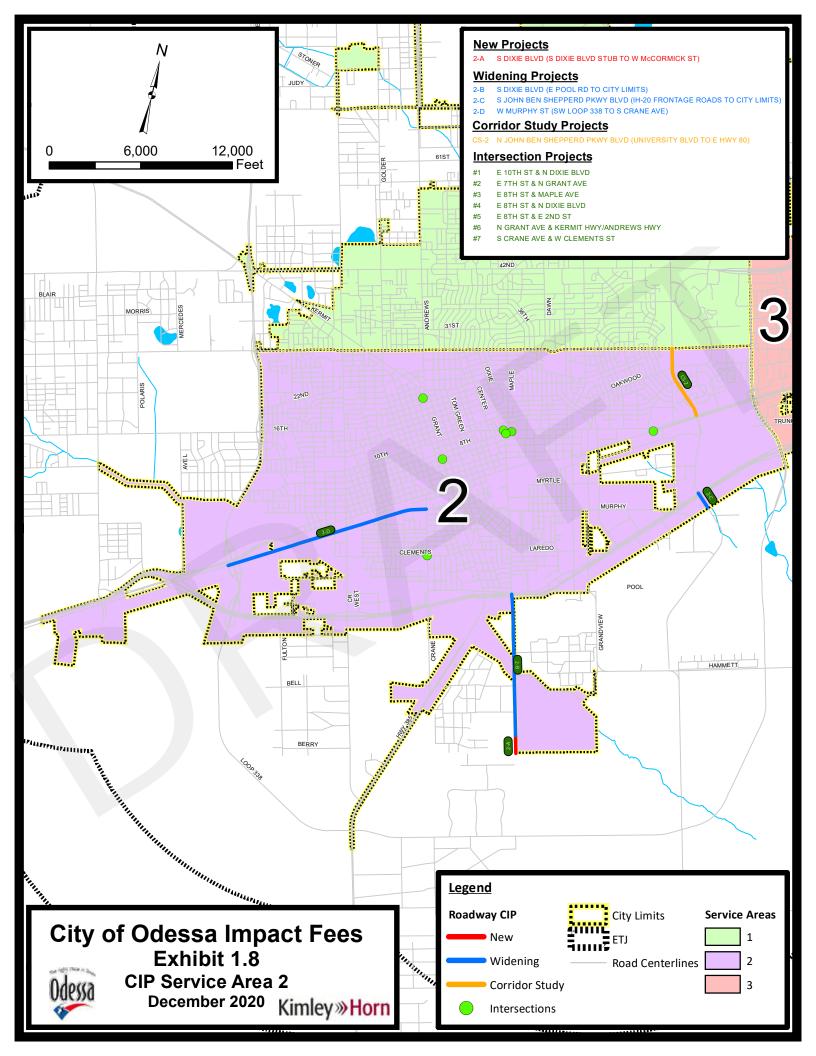






# Table 1.5: 10-Year Roadway Impact Fee CIP - Service Area 2

Service Area	Proj. #	Theroughfare Plan Classification	Roadway	Limits	Length (mi)	% In Service Area
	2-A	Major Arterial	S Dixie Blvd (1)	S Dixie Blvd Stub to W McCormick St	0.22	50%
- 1	2-8	Major Arterial	S Dixie Blvd (2)	E Pool Road to City Limits	1.76	100%
- 1	240	Major Arterial	S John Ben Shepperd Parkway Blvd	IH-20 Frontage Roads to City Limits	0.21	100%
- 1	2-D	Minor Arterial	W Murphy St	Loop 338 to S Crane Ave	2.56	100%
	Proj. #		Location	Improvement(s)		% In Service Area
3	1	Intersection Improvements	E 10th Street & N Dixie Boulevard	Intersection Improvements		100%
	2		E 7th Street & N Orant Avenue	Intersection Improvements		100%
	3		E 8th Street & Maple Avenue	Intersection Improvements		100%
	4	1 1	E 8th Street & N Dixie Boulevsed	Intersection Improvements		100%
- 1	- 5	1 1	E 8th Street & E 2nd Street	Intersection Improvements		50%
- 1	6	1 1	N Grant Avenue & Kermit Highway/Andrews Highway	Intersection Improvements		100%
- 1	7	1	S Crane Avenue & W Clements Street	Intersection Improvements		100%
	Proj. #	Carridar Studies	Location	Limits	Length (mi)	% In Service Area
- 1	C8-2	1 [	N John Ben Shepperd Parlovay Blvd	University Blod to E Hwy 80	0.91	100%

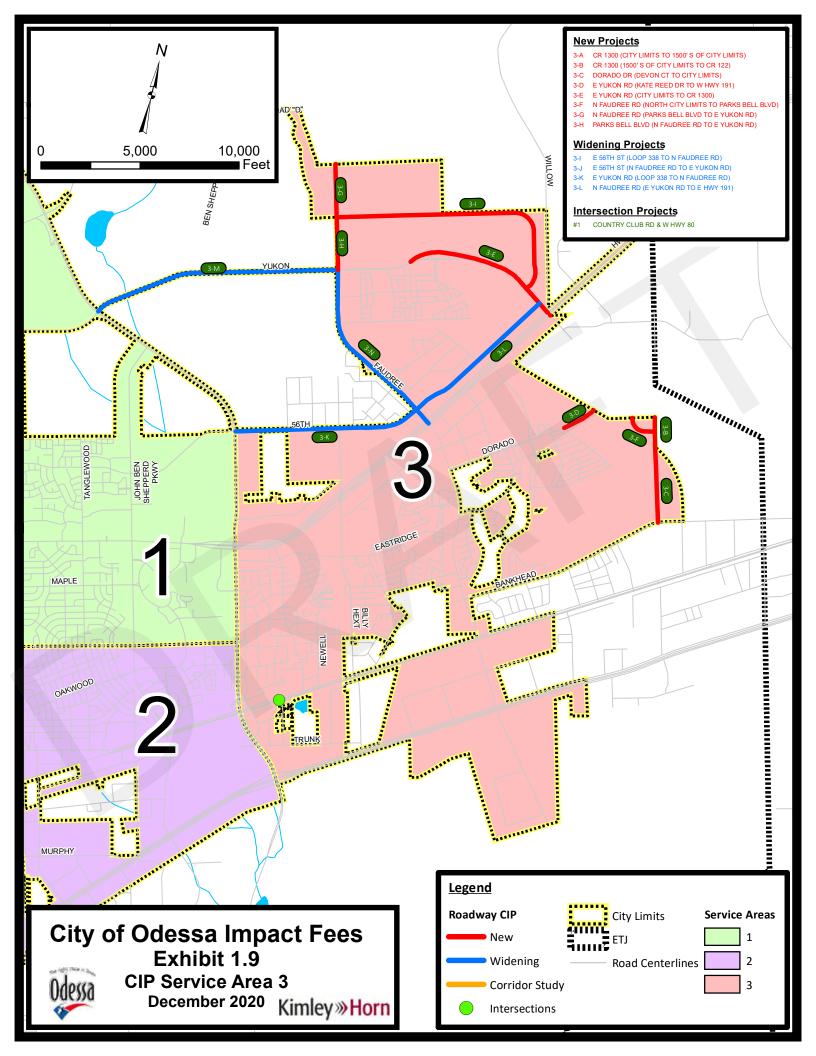






# Table 1.6: 10-Year Roadway Impact Fee CIP - Service Area 3

Service Area	Proj. #	Theroughfare Plan Classification	Roadway	Limits	Length (mi)	% In Service Area
	3-1	Major Arterial	CR 1300 (1)	City Limits to 1500' S of City Limits	0.28	50%
- 1	3-B	Major Arterial	CR 1300 (2)	1500' S of City Limits to CR 122	0.72	100%
- 1	34C	Minor Arterial	Derado Dr	Devou Ct to City Limits	0.33	100%
- 1	3-D	Major Arterial	E Yukou Rd (5)	Kate Reed Dr to W Hwy 191	1.53	100%
- 1	3-E	Major Arterial	E Yukon Rd (6)	City Limits to CR 1300	0.29	100%
- 1	3-8	Major Arterial	N Faudree Rd (1)	North City Limits to Parks Bell Blvd	0.51	100%
- 1	3-0	Major Arterial	N Fandree Rd (2)	Parks Bell Blvd to E Yukou Rd	0.50	50%
2	3-H	Major Arterial	Parks Bell Blvd	N Fundree Rd to E Yukon Rd	2.56	100%
8	3-1	Minor Arterial	E 56th St (1)	Loop 338 to N Faudree Rd	1.77	50%
	34J	Major Arterial	E 56th St (2)	N Fundace Rd to E Yukon Rd	1.55	100%
- 1	3-K	Major Arterial	E Yukou Rd (7)	Loop 338 to N Faudree Rd	2.37	100%
- 1	J-L	Major Arterial	N Faudree Rd (3)	E Yukon Rd to E Hwy 191	1.81	50%
	Proj. #	latersection Improvements	Location	Improvement(s)		% In Service Area
	1	1 -	Country Club Road & W Highway 80	Intersection Improvements		50%







# B. Water Impact Fee CIP

The water impact fee capital improvements plan was developed through the review of the 2019 Water Master Plan and interviews with the planning and engineering staff. State law only allows cost recovery associated with eligible projects in a ten (10) year planning window from the time of the impact fee study.

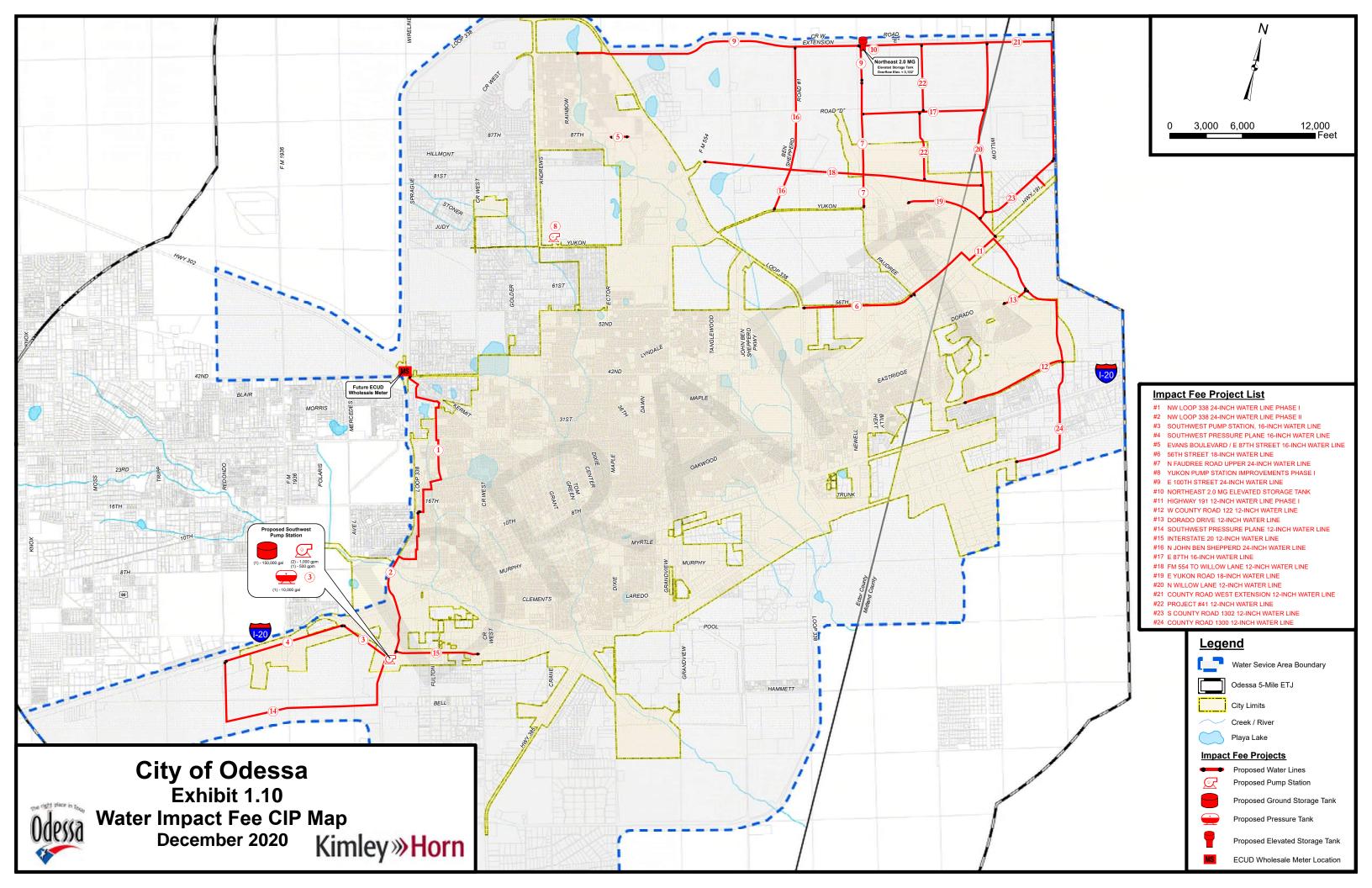
Twenty five (25) proposed projects identified in the capital improvements plan are determined eligible for recoverable cost over the next 10 years. The proposed water impact fee capital improvements plan is listed in **Table 1.7** and illustrated in **Exhibit 1.10**.





Table 1.7: Water Impact Fee Capital Improvements

Project Number	Description
1	NW LOOP 338 24-INCH WATER LINE PHASE 1
2	NW LOOP 338 24-INCH WATER LINE PHASE 2
3	SOUTHWEST PUMP STATION & 16-INCH WATER LINE
4	SOUTHWEST PRESSURE PLANE 16-INCH WATER LINE
5	EVANS BOULEVARD / E 87TH STREET 16-INCH WATER LINE
6	56TH STREET 18-INCH WATER LINE
7	N FAUDREE ROAD UPPER 24-INCH WATER LINE
8	YUKON PUMP STATION IMPROVEMENTS PHASE 1
9	E 100TH STREET 24-INCH WATER LINE
10	NORTHEAST 2.0 MG ELEVATED STORAGE TANK
11	HIGHWAY 191 12-INCH WATER LINE PHASE 1
12	W COUNTY ROAD 122 12-INCH WATER LINE
13	DORADO DRIVE 12-INCH WATER LINE
14	SOUTHWEST PRESSURE PLANE 12-INCH WATER LINE
15	INTERSTATE 20 12-INCH WATER LINE
16	N JOHN BEN SHEPPERD 24-INCH WATER LINE
17	E 87TH 16-INCH WATER LINE
18	FM 554 TO WILLOW LANE 12-INCH WATER LINE
19	E YUKON ROAD 18-INCH WATER LINE
20	N WILLOW LANE 12-INCH WATER LINE
21	COUNTY ROAD WEST EXTENSION 12-INCH WATER LINE
22	PROJECT #41 12-INCH WATER LINE
23	S COUNTY ROAD 1302 12-INCH WATER LINE
24	COUNTY ROAD 1300 12-INCH WATER LINE
25	2020 WATER IMPACT FEE REPORT







# C. Wastewater Impact Fee CIP

The wastewater impact fee capital improvements plan was developed through the review of the 2019 Wastewater Master Plan and interviews with the planning and engineering staff. State law only allows cost recovery associated with eligible projects in a ten (10) year planning window from the time of the impact fee study.

Twenty (20) proposed projects identified in the capital improvements plan are determined eligible for recoverable cost through impact fee over the next 10 years. The proposed water impact fee capital improvements plan is listed in **Table 1.8** and illustrated in **Exhibit 1.11**.





Table 1.8: Wastewater Impact Fee Capital Improvements

Project Number	Description	
1	Line P Interceptor Segment I	
2	Line Q Interceptor Segment I	
3	Line Q Interceptor Segment II	
4	Faudree Rd 18-inch Trunk Main	
5	Faudree Rd 15-inch Trunk Main	
6	Line H Interceptor Segment I	
7	West I-20 30-inch Trunk Main	
8	Line P Basin Southeast Lift Station, Force Main, and Relief Trunk Main	
9	Faudree Rd 15-inch North Trunk Main Extension	
10	Ratliff Ranch Northeast 12-inch Trunk Main	
11	Ratliff Ranch North 12-inch Trunk Main	
12	FM 554 Northeast 12-inch Trunk Main	
13	FM 554 North 15, 12-inch Trunk Main	
14	Dorado Dr Line P Basin 12-Inch Main	
15	Line P Basin Northeast 12, 8-Inch Trunk Main	
16	Smith Park 12-Inch Main	
17	Parks Bill Ranch North 12-Inch Trunk Main	
18	Southwest 12-Inch Trunk Main B	
19	Southwest 12-Inch Trunk Main D	
20	2020 Wastewater Impact Fee	

